



## Treatment and Prevention Methods of Toxoplasmosis

Caroline Murphy\*

Department of Environmental Science and Policy, George Mason University, Fairfax, USA

### DESCRIPTION

Toxoplasmosis is a parasitic disease caused by the apicomplex *Toxoplasma gondii*. Toxoplasmosis infections are associated with a variety of neuropsychiatric and behavioral disorders. Occasionally, mild flu-like symptoms, such as muscle aches and lymph node tenderness, may last for weeks or months. A small number of people may experience eye problems. People with weakened immune systems can develop serious symptoms, such as seizures and incoordination. If a person becomes infected during pregnancy, a condition known as congenital toxoplasmosis can affect the child [1].

Toxoplasmosis is usually transmitted by ingestion of undercooked food containing cysts, contact with feces of infected cats, and transmission from an infected pregnant woman to her baby. Rarely, the disease can be transmitted by blood transfusion. It is not spread among people in any other way. This parasite is known to reproduce sexually only in cats. However, it can infect warm-blooded animals of most species, including humans [2]. Diagnosis is usually made by blood tests for antibodies or by testing a pregnant woman's amniotic fluid for the parasite's DNA.

Prevention is through proper preparation and cooking of food. In otherwise healthy people, no treatment is usually required [3]. Spiramycin or pyrimethamine/sulfadiazine and folinic acid can be used for treatment during pregnancy.

Up to half of the world's population is infected with *T. gondii* but is asymptomatic. About 11% of people in the United States are infected, and in some parts of the world he is over 60% infected. About 200,000 cases of congenital toxoplasmosis occur each year. Charles Nicole and Louis Manceau first described the creature in 1908. In 1941, transmission during pregnancy from pregnant parents to babies was confirmed [4]. There is preliminary evidence that infection can affect human behavior.

Toxoplasmosis usually results from ingestion of food contaminated with the parasite *T. gondii*. *T. gondii* multiplies in

the cat's intestines and ends up in feces. Cat feces can contaminate soil, water, plants and food.

Accidental ingestion of *T. gondii* can occur after contact with contaminated items such as:

- Cleaning a cat's litter box.
- Gardening in soil where cats live.
- Drinking water that hasn't been boiled or treated.
- Eating unwashed fruits or vegetables.
- Eating undercooked or improperly refrigerated meat.

Toxoplasmosis is not contagious, but pregnant women can pass the causative parasite to their fetuses. Although rare, people can get toxoplasmosis after receiving an infected organ transplant or blood transfusion.

Symptoms of toxoplasmosis depend on where the parasite is active. This tends to vary depending on whether it is a new (acute) infection, a reactivation, or an infection already present at birth (congenital) [5]. Ocular toxoplasmosis can be caused by *T. gondii* infection. It is most commonly seen in teens or young adults born with the blood type *T. gondii* infection. Rarely, ocular toxoplasmosis occurs during initial *T. gondii* infection. Symptoms of ocular toxoplasmosis include:

- Eye pain
- Blurred vision
- Blindness

Toxoplasmosis is treated with a combination of antiparasitic drugs and antibiotics. These prevent *T. gondii* from growing and multiplying inside the body. Folinic acid is given to reduce the side effects of antiparasitic drugs during the treatment of toxoplasmosis.

Toxoplasmosis is usually not treated in people who do not have a weakened immune system and who have no symptoms. Treatment for toxoplasmosis is effective only if the parasite is active. Cysts left in the body by parasites cannot be removed.

Most treatment regimens for toxoplasmosis last 2 to 6 weeks, but you may start feeling better after just a few days [6]. It can take 3

**Correspondence to:** Caroline Murphy, Department of Environmental Science and Policy, George Mason University, Fairfax, USA, E-mail: murphyca\_roline@gmu.edu

**Received:** 28-Nov-2022, Manuscript No. JBP-23-19738; **Editor assigned:** 01-Dec-2022, PreQC No. JBP-23-19738 (PQ); **Reviewed:** 15-Dec-2022, QC No. JBP-23-19738; **Revised:** 22-Dec-2022, Manuscript No. JBP-23-19738 (R); **Published:** 29-Dec-2022, DOI: 10.35248/2155-9597.22.S19.027.

**Citation:** Murphy C (2022) Treatment and Prevention Methods of Toxoplasmosis. J Bacteriol Parasitol. S19:027.

**Copyright:** © 2022 Murphy C. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

weeks to 6 months for the brain damage caused by the parasite to heal completely.

Even if we feel better, we may need to continue treatment for a longer period of time to make sure the active parasites are destroyed. Treatment for congenital toxoplasmosis may take up to a year. Treatment for people with weakened immune systems may continue indefinitely.

## REFERENCES

1. Tenter AM, Heckeroth AR, Weiss LM. *Toxoplasma gondii*: from animals to humans. Int J Parasitol. 2000;30(12-13):1217-1258.
2. Alzaheb RA. Seroprevalence of *Toxoplasma gondii* and its associated risk factors among women of reproductive age in Saudi Arabia: a systematic review and meta-analysis. Int J Women's Health. 2018;21(10):537-544.
3. Goebel WS, Conway JH, Fought P, Vakili ST, Haut PR. Disseminated toxoplasmosis resulting in graft failure in a cord blood stem cell transplant recipient. Pediatr Blood Cancer. 2007;48(2):222-226.
4. Wang T, Zhou J, Gan X, Wang H, Ding X, Chen L, et al. *Toxoplasma gondii* induce apoptosis of neural stem cells via endoplasmic reticulum stress pathway. Parasitolgy. 2014;141(7):988-995.
5. Lintas C, Altieri L, Lombardi F, Sacco R, Persico AM. Association of autism with Polyomavirus infection in postmortem brains. J Neuro Oncol. 2010;16:141-149.
6. Eida OM, Eida MM, Ahmed AB. Evaluation of polymerase chain reaction on amniotic fluid for diagnosis of congenital Toxoplasmosis. J Egypt Soc Parasitol. 2009;39(2):541-550.

: